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TITLE OF THESIS... The Effect of an Alternative Delivery System on Social Class Variations in Utilization of Dental Care Services: Saskatchewan

UNIVERSITY... Alberta

DEGREE FOR WHICH THESIS WAS PRESENTED... Master of Arts

YEAR THIS DEGREE GRANTED... 1976

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THE UNIVERSITY OF ALBERTA

THE EFFECT OF AN ALTERNATIVE DELIVERY SYSTEM ON SOCIAL CLASS VARIATIONS IN UTILIZATION OF DENTAL CARE SERVICES: SASKATCHEWAN

by

© EVELYN SWANSON

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE

OF MASTER OF ARTS

DEPARTMENT OF SOCIOLOGY

EDMONTON, ALBERTA

FALL, 1976

THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled THE EFFECT OF AN ALTERNATIVE DELIVERY SYSTEM ON SOCIAL CLASS VARIATIONS IN UTILIZATION OF DENTAL CARE: SASKATCHEWAN submitted by EVELYN SWANSON in partial fulfillment of the requirements for the degree of Master of Arts.

William E. Novosh
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June 24, 1976

ABSTRACT

In the fall of 1974, the Province of Saskatchewan implemented the first stage of a voluntary dental plan for children. Through this government-operated program, preventive and treatment services are provided at no charge by teams of salaried dentists, dental nurses and dental assistants.

Within the first seven months following implementation, approximately eighty percent of all six-year old children (the first age group eligible) had been enrolled in the Plan by their parents. The focus of the study was on the remaining twenty percent of eligible children who had not been enrolled.

A review of the literature indicated that lower class members were less likely than higher class members to utilize traditional sources of dental care services, even when these services were provided under a variety of insurance plans. The reasons cited for underutilization by lower class members generally involved social and psychological characteristics of the lower classes themselves--lack of financial resources, ignorance, apathy and fear. Very little consideration was given to the characteristics of the dental care delivery system and its effect on utilization behavior.

In view of the growing body of literature on the interplay between characteristics of the organization of health services and those of the population being served, the organization of the Saskatchewan Dental Plan was reviewed. Under this Plan, convenience

to the parent was maximized; financial and geographical barriers to care were removed; and the quality of care was expected to be high. Because of these features, it was hypothesized that the Plan would meet the needs of the majority of members of all social classes. In other words, it was expected that the introduction of this alternative delivery system in Saskatchewan would result in an equitable distribution of dental care services throughout the eligible population. The results of a sample survey of parents who did not initially enroll their children in the Plan supported the hypothesis.

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CHAPTER I

INTRODUCTION

A. Statement of the Problem

In September of 1974, the Province of Saskatchewan implemented the first stage of a voluntary dental plan for children. Services under the Saskatchewan Dental Plan are provided at no charge by teams of salaried dentists, dental nurses and dental assistants in school-based clinics throughout the province. During the first year of operation of the Plan, all six-year old children became eligible to receive services.[1] Within the first seven months following implementation, approximately eighty percent of the eligible children had been enrolled by their parents.

Although the rate of enrollment in the voluntary plan was very high, concern was raised about the twenty percent of eligible children who had not been enrolled. Studies of the utilization of dental care under the predominant delivery system in North America--private dental practice--have shown that members of the lower classes are less likely to receive dental care than their middle class counterparts. The question to be investigated was whether a change in the nature of the dental care delivery system would result in a change in

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[1] All children from age three to twelve will be eligible for services once the Plan is fully implemented.

the well-documented relationship between social class and dental care utilization. In other words, would the lower classess continue to be nonutilizers of dental care even though an alternative delivery system had been introduced. After considering the organization of the Saskatchewan Dental Plan, and reviewing literature on medical and dental care utilization, it was predicted that patterns of utilization would be radically altered. Contrary to the results of studies of utilization of private dental care, it was hypothesized that the non-utilizers of the Dental Plan would be primarily middle class. It was further hypothesized that this group would continue to utilize private dental practices. If these hypotheses were found to be correct, it would follow that the direct relationship between social class and utilization no longer existed, since all other eligible children in the province would be receiving dental care through the provincial plan. In order to test the hypotheses, interviews were conducted with a sample of parents who had not enrolled their children in the Dental Plan by March, 1975.

B. Characteristics of the Traditional Dental Care Delivery System

The conventional mechanism for the delivery of dental care in North America is through the independent, fee-for-service private practice. In Canada, about seventy percent of dentists are in solo practice (Hall, 1965). The individualistic character of dental practice has grown out of the nature of oral disease and its treatment. Dental problems are easily treated outside a hospital; necessary equipment is relatively inexpensive; and the technical knowledge

required for most treatment is within the scope of a single practitioner (O'Shea, 1971b).

Despite the fact that dentists are a skilled professional group, trained to provide a high level of service to their patients, dentists work in an organizational setting which may make this goal difficult to achieve. The private dental practice is essentially a business enterprise operating on a fee-for-service basis. Since treatment costs represent income to the dental practice, there may be little incentive to reduce these costs by performing less costly preventive services rather than more expensive restorative procedures (Evans, 1975). In addition, because the dentist usually works in a solo practice, it is difficult for him to objectively evaluate the effectiveness of the treatment he provides.

The inherent contradiction in the practice of dentistry both as a profession and as a business has apparently made it difficult for dentists to recognize the possibility that a reorganization of practices could result in a higher level of service at reduced cost to the public, while maintaining as high an income for the dentist. This could be accomplished, in part, by greater use of auxiliary personnel trained to undertake simple preventive and treatment procedures. Possibly because of the reluctance of professionals to narrow their scope of responsibility, this change has been very slow to come about. The productivity of dentists might also be increased by more effective use of resources in group practices.

Under the system of private practice, the individual is responsible for seeking out and obtaining dental services for himself and his family. However, the nature of the delivery system has

limited the accessibility of services in several ways. First, the location of dental practices has been determined primarily by economic considerations and personal preferences of individual members of the dental profession. As a result, rural areas and poorer sections of metropolitan centres are often unserved. The cost of services also limits the accessibility of lower class families to adequate care. Other, less tangible characteristics of the organization of care may be interacting with the cost factor to discourage utilization by some groups in the population. Although very little research exists on this subject, problems related to the times during which services are available and the nature of the dentist-patient relationship itself may be contributing to underutilization.

Over the past several years it has become increasingly apparent that this delivery system is not adequate to meet the need for dental care in the Province of Saskatchewan. Studies have shown that children in the province are generally receiving less dental care than they require and consequently suffer from poor dental health (Research and Planning Branch, Saskatchewan Department of Public Health, 1972).

This situation can be accounted for, in part, by the high cost of dental care and the lack of availability of dental services. Both the supply and distribution of dentists in Saskatchewan are unfavourable. In 1974, the Saskatchewan dentist-to-population ratio was 1:3,876 compared to an all-Canada ratio of 1:2,851 in 1973[1].

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[1] It was estimated that in order to provide all the dental services required by the age group 3 to 12 through the traditional delivery system in Saskatchewan, the ratio would have had to be improved to 1:2,500. This ratio would still not be adequate to meet the dental care needs of the entire population (Research and Planning Branch, Saskatchewan Department of Public Health, 1972). It should be noted that this estimate is based on need rather than demand.

In addition, over fifty percent of the province's dentists are practicing in the cities of Regina and Saskatoon, serving only thirty percent of the total population. It is evident that the greatest problems are in rural areas and small communities, but the overall shortage affects the larger centres as well. Financial barriers to dental care affect all classes but have greatest impact on lower income groups.

C. Health Care in Saskatchewan

The people of Saskatchewan have historically acted collectively to ensure that their health needs were met. Early in the twentieth century when much of the population lived on scattered farms and in rural communities, residents of municipalities cooperated to recruit and pay physicians to provide health services. Funds were raised through taxes on residents and landowners. During the same period, residents of rural municipalities, towns and villages cooperated to build and operate small hospitals with moneys collected through property taxes. In 1927, these municipalities were empowered to pay for hospital care with tax revenues (Badgley and Wolfe, 1967).

As transportation improved, rural residents began to seek health services in urban centres. This shift from use of the general practitioner in the rural area was partly a result of advances in medical technology which meant specialized health services were available--but only in larger centres. Since the municipal doctor plans covered only services provided by the resident physician, patients had to pay directly for services received in other centres. The need for a portable form of health coverage became more pressing. In 1939, rural municipalities were empowered to collect taxes for hospital and

medical care insurance plans. About the same time, private voluntary health insurance plans were established and grew in popularity in urban areas.

During the provincial election campaign of 1944, the Cooperative Commonwealth Federation pledged to make medical, dental and hospital services available to all regardless of the ability of the individual to pay. As a result of the C.C.F. victory, Saskatchewan established the first provincial hospital and medical care insurance plans. Following the defeat of the C.C.F. government in 1964, few changes were made in the nature of the health system.

With the return of the New Democratic Party following the 1971 provincial election, several new health programs were introduced. Perhaps in an effort to avoid the haphazard extention of services through insurance plans, these programs were both financed and operated by the government. Since many of the existing health resources tended to be concentrated in the two largest urban centres, the government assumed responsibility for ensuring improved geographical access to these services by residents of sparsely settled areas of the province.

D. The Alternative Dental Care Delivery System in Saskatchewan

Instead of trying to solve problems of dental care in Saskatchewan through a system of insurance, a government-operated program with salaried dentists, dental nurses and dental assistants was established. As previously mentioned, the supply of private dental practitioners would have been inadequate to meet even a small portion of the needs of the province's children. In addition, an insurance plan would not have resolved many of the problems which have

been found to contribute to underutilization of dental care by some segments of the population.

In 1974, the Government of Saskatchewan implemented the first stage of a dental program for children which was designed to improve the geographical accessibility of services, remove financial barriers and reduce the impact of what has been termed parental indifference to dental health. Two hundred and fourteen dental clinics were established in schools throughout the province. Children are first examined by a salaried dentist who prescribes a treatment program. Much of the treatment is provided by dental nurses who have completed a two-year training program. Complicated procedures are carried out by dentists employed by the Plan, or by private dentists on referral.

No premiums or enrollment fees of any kind are paid by participating families, and no charges are made for services provided by Dental Plan personnel. When a child receives referred services from a private dentist, the Plan pays the cost at an agreed-to rate. Any charges beyond this rate are paid by the family.

When a child is enrolled in the Plan, the parent gives his consent for the Plan to provide preventive services only, or combined preventive and treatment services. Parents are informed that the child is to receive certain services within a specified period of time. If the parent wishes to be present, he must contact the dental clinic to arrange an appointment time. If this is not done, the child automatically receives treatment or preventive services in the absence of the parent.

The Saskatchewan Dental Plan for children therefore represents a delivery system which is a radical departure from fee-for-service

private dental practice. Optimal use is made of each category of salaried dental manpower; services are provided in clinics which are geographically more accessible; no fees are paid for services; and parents need not accompany their children when services are provided. Once a parent has enrolled his child and given consent for treatment services, all services deemed necessary by the dentist are provided automatically. Parents can be involved in the Plan to the extent that they choose. They can accompany the child during all services, or none. However, as long as the child is enrolled in the Plan, the final decision regarding treatment is the responsibility of the dentist.

CHAPTER II

SURVEY OF THE LITERATURE

A. Dental Care Utilization and Social Class

Studies on dental care utilization have generally investigated utilization under the predominant system of delivery--through private dental practitioners paid on a fee-for-service basis. These studies have shown that a relatively small proportion of the population is receiving dental care, and that much of this care is received by those in higher socioeconomic groups.

The most recent Canada-wide study of dental care utilization found that only 42 percent of the population received any dental care in 1967 (Lewis, 1974). A 1971 survey in Alberta (Bene, et al, 1974) revealed that 63 percent of the Alberta respondents had received care in the previous two years. Considering the fact that the Alberta study was based on utilization over a two year period, the figures suggest very little increase in utilization since 1967.

Further investigation of utilization data in Canada and the United States has consistently resulted in the finding that a direct relationship exists between socioeconomic indicators and measures of the extent of utilization. Two nation-wide studies in the United States (Freidson and Feldman, 1958; Newman and Anderson, 1972) revealed a direct relationship between visits to the dentist and family income. Direct relationships were also found between expenditure on dental care, number of dental visits and the education and social status of

the occupation of subjects (Newman and Anderson, 1972). Similar findings were made in a number of other studies in the United States (Koos, 1954; Kriesberg and Treiman, 1960; Muller, 1965; Powell and Roghmann, 1973).

Two recent Canadian studies conducted in Alberta and Ontario produced essentially the same results. The Alberta study (Bene, et al, 1974) using income as the independent variable, clearly revealed a direct relationship between economic status and the average number of dental visits of respondents over a two year period. The Ontario study (Lawton, et al, 1973) used the Blishen (1967) socioeconomic index to determine the social class of respondents. Because the study was limited to the city of London and nearby communities, results cannot be generalized to that province as a whole. Nevertheless, the findings follow the same pattern as those in Alberta. Lower class respondents were less likely to have received dental care within the previous year and to report that their children were receiving regular dental care.

These findings on the differential utilization of dental care by social classes strongly suggest that access to dental care is not equitably distributed throughout the population. The reasons for variable patterns of utilization are of interest both to the theoretical sociologist investigating the class structure, and to the planner of health services attempting to design programs which will meet the needs of a particular target group or of the population as a whole.

B. Models of Utilization Behavior

Although considerable research has been done to identify the determinants of utilization, most of the research has focussed on the

social and psychological characteristics of potential consumers of dental care. Very little work has been done to investigate the effect of characteristics of the delivery system on utilization behavior. The basic assumption of this research is that utilization behavior can be changed only by altering the characteristics of the population to be served; the organization of the delivery system is accepted as given. From a pragmatic point of view, these assumptions may be valid, inasmuch as the social and political characteristics of most areas of North America would tend to prevent radical changes in the delivery system. However, such assumptions may obscure the most important reasons for underutilization of dental care services by the lower social classes. This characteristic of research on dental care utilization is particularly surprising in view of the large volume of literature on organizational phenomena and the effects of organizational structure on human behavior (McKinlay, 1972).

The focus on characteristics of the potential utilizer of dental care is illustrated by the social-psychological model of dental health behavior developed by Kegeles (1961, 1963a, 1963b, 1974). The principal components of the model are:

1) belief in susceptibility to the disease,
2) seriousness of the consequences,
3) awareness of actions necessary to prevent or cure the disease, and
4) determination of the advantages and disadvantages of seeking help (barriers to care).

The use of services is thus explained in terms of the motivation, values, perception and knowledge of the individual.

A second focus of utilization studies is financial access to care. This factor has been found to be of most significance when the type of health care sought is discretionary (Andersen, 1968) and would therefore appear to be of particular relevance to the seeking of preventive or nonemergency dental care.

Although these two orientations--financial access and social-psychological attributes of consumers--predominate in studies of dental health behavior, a third model can be drawn from literature on the utilization of health services in general. This model focusses on the interaction between cultural variations within the population and the nature of the delivery system. Socioeconomic classes are assumed to constitute relatively distinct subcultures having differing value preferences with regard to the way in which services are delivered (Berkanovic and Reeder, 1973).

From this perspective, utilization behavior is viewed as a response to a system of medical practice, as well as a product of the patients' characteristics (Freidson, 1961). The patient and practitioner each have a distinctive orientation limited by the social structure within which he acts. Freidson has conceptualized these as two major structures: "the lay and the professional, in interaction, meshing at some points and failing to mesh, or clashing at others" (1961: 13). These two structures are variable in that the lay structure differs with such factors as social class, and the professional structure varies with the way in which the delivery of service is organized. On the basis of this premise, utilization of a particular service could be predicted to be highest when the professional structure is organized such that it meshes rather than conflicts with the lay

structure. In other words, to be most effective, the organization of services must accommodate the structure of the personal affairs of the patient.

Berkanovic and Reeder (1974) have similarly stressed the interplay between the culture of the organization delivering services and that of the subgroup seeking services.

> Clearly the culture represented by a particular source of health services could be supportive, neutral or antagonistic to the culture of any of the target groups it presumes to serve (Antonovsky, 1972). Thus the psychological cost of using a particular source of service may differ for different subgroups in the population. Where other factors, such as the perception of serious medical need, do not intervene, those subgroups for whom the psychological cost of using available services is high are more likely to develop a negative set of attitudes, opinions and perceptions toward them (Berkanovic and Reeder, 1974: 95).

The implication of this model for research purposes is to change from the use of individual attributes to organizational factors as the independent variables determining utilization behavior. This type of research is most readily conducted in settings where alternative delivery systems have been established. The interaction between cultural differences and organizational characteristics can be investigated by determining the sources of care chosen by particular subgroups. In contrast, the social psychological model focusses on the individual with little if any regard for the nature of the organization providing service. Studies of the financial access model consider only one aspect of the delivery system--method of payment--and its effect on utilization behavior.

C. Examination of Research on Utilization Models

Tash et al (1969) tested a number of hypotheses derived from the Kegeles social-psychological model. This investigation demonstrated the complexity of utilization behavior by identifying several variables determining preventive use of the dentist. These included self-reported symptomatology (susceptibility), the value of retention of natural teeth (seriousness of consequences), belief in the utility of preventive action(advantages or benefits of action), belief that the cost of dental care is worth the benefit, expectations of pain, fear of treatment, dental health knowledge, and a variety of social demographic variables--age, sex, race, urban-rural residence, education, income, and standard of living. These factors individually accounted for some of the differences between utilizers and nonutilizers of preventive care and therefore lend support to the Kegeles model. However, as Kegeles (1963b) himself noted, although these variables appear to be relevant and necessary, they are not sufficient for explaining utilization behavior. Nevertheless, Tash et al concluded on the basis of their study that in order to increase utilization of dental care, values regarding dental health would have to be changed.

Studies of the financial barrier explanation for underutilization of dental care have shown that the removal of economic barriers alone is inadequate to substantially increase utilization. Most of the research has investigated the use of insured dental care.

Over an eight year period, an employee dental insurance plan in the United States experienced a utilization rate of only twenty percent (Mulvihill et al, 1972). Services were to be obtained in the usual manner, through a fee-for-service dentist of the employee's

choice. No mention was made of the cost of premiums. However, utilizers were required to pay the first $25.00, plus twenty-five percent of the remaining costs of treatment. These economic restrictions, combined with the need to submit claims for services to the insurance company, may have acted as a deterrent to utilization.

A second study (Nikias, 1968) investigated the relationship between social class and utilization under a community-wide dental prepayment plan in New York City. Under this plan most insurance premiums were paid by employers or union funds. Coverage of basic dental services was almost complete. It therefore appears that this particular plan removed most of the financial barriers to care. The availability of dentists was not considered a barrier to care due to the high dentist-to-population ratio in New York. As in most insurance plans, services were to be delivered in the customary way at private offices of dental practitioners chosen by patients. Therefore, the only change in the delivery of dental services was the removal of cost barriers. Under this system, social class, based solely on occupational classification, was still found to be directly related to extent of utilization. Similar results were obtained by O'Shea and Bissel (1969) in their study of utilization under Medicaid in Erie County, New York.

Since financial barriers to dental care do not account for all of the variation in utilization by social classes, Nikias, and O'Shea and Bissel have suggested that values and beliefs about dental health are significant factors in underutilization of services. The existence of a relationship between orientations toward dental care and social class is supported by empirical studies. Freidson's analysis of data based on a nation-wide U.S. survey indicated that good dental

health is a value stressed more by middle and upper classes than by lower classes (1958).

The crucial question raised by the existence of class-related value systems is why these values have developed and been perpetuated. Part of the answer may be that certain aspects of the delivery system have fostered such beliefs. One potentially significant aspect of the delivery system which may contribute to such beliefs is the nature of the patient-therapist relationship. Early theory on this relationship assumed a known set of expectations on the part of both the patient and the practitioner (Parsons, 1951). Largely because patients have failed to conform to professional expectations, this assumption now has little credibility.

Studies which have focussed on the dentist-patient relationship have generally investigated the role of the patient and excluded that of the dentist. This feature of the research is probably a result of the belief that the behavior of the dentist is determined by professional rather than psychological or social factors (Linn, 1971). Little investigation has been made of the attitudes of the provider of services toward his patients and the possible effects of class differences.

In the case of dental care, the practitioner may hold expectations about the behavior of the patient which are unrealistic, particularly for the lower class patient. This point is illustrated by the writings of one dentist on the use of dental services by welfare patients in Alberta (Bodnarchuk, 1967). The author was concerned with documenting the disruptions caused by welfare patients in a private practice. These patients were shown to break appointments, discontinue treatment and require emergency services more frequently than regular

patients. These findings were attributed primarily to neglect on the part of welfare recipients. Practical problems faced by welfare mothers in obtaining babysitters and transportation to keep scheduled appointments during regular office hours were not considered by the dentist; nor was there any consideration of the social and psychological stresses faced by these patients as a result of their position in the social structure. In addition, the dentist's negative attitudes toward serving welfare patients could have been evident to the patients themselves, thus contributing to the high rates of discontinued treatment.

Other problems may be encountered by the lower class patient. Because lower class workers often have less control over their schedules, they may delay seeking care, arrive late for scheduled appointments or cancel appointments. Those who delay seeking care for financial or social-psychological reasons may require extractions which could have been avoided by earlier care. As a result, the dentist may display negative sanctions.

The important point is that the patient-therapist relationship may reinforce the social-psychological response to illness or, in this case, dental disease--uncertainty, fear and anxiety (Coe and Wessen, 1965). The impact of the therapeutic encounter on the self-concept of the patient is also of concern, particularly when the patient is already in the disadvantaged position of being on welfare or possessing a low social status. Research indicates that people resist or "withdraw from situations in which they occupy a disadvantaged position, or lose control over the factors which enable them to present themselves in a favorable light" (Coe and Wessen, 1965: 1029). The extent to which these factors have contributed to the development of a negative orientation

toward dental health is unknown, but it is suggested that the nature of the patient-therapist encounter may be one significant factor in utilization behavior.

Other characteristics of the private practice delivery system may be contributing to underutilization by a large segment of the population. Routine care is not available when the lower class worker is free to obtain it--after working hours. The appointment system, utilizing the standard double booking procedure, generally means lengthy periods in a waiting room, during which time the wage-earner may be losing the income he needs to pay for the high cost of treatment. This factor increases in importance as more females enter the labour force and the parent must find time for visits not only for personal care, but also for care of children.

Throughout the literature on dental care utilization there has been a tendency to ascribe the primary problems of underutilization to the public. Those who do not make appropriate use of dental care services are variously described as "ignorant, apathetic, unrealistically fearful of dental treatment, and unwilling to pay for dental care" (Young, 1971: 262). Yet, there is an increasing demand on the part of the public for adequate dental care as a basic human right rather than a privilege for the few. Questions are beginning to be raised about the ability of the present delivery system to meet this demand (Lewis, 1974; Bugbee, 1970; McDermott, 1970). In Canada, it has been suggested that more than twice the current supply of dentists would be necessary to meet the needs of all Canadians under the existing method of delivering dental care (Lewis, 1974). Even with an increased supply of dentists however, the evidence already presented suggests that a

large segment of the population would still not make use of the services available.

Many members of the dental profession see solutions in increasing the productivity of the private dental office (McDermott, 1970) or in prepaid dental insurance plans (Thomson, et al, 1973). While these approaches may increase the availability of services to some, it is the contention of this paper that the delivery system must be altered to a much greater extent if access to dental services is to be equitably distributed throughout the population.

Those who support a social-psychological explanation of utilization behavior, which implies the existence of erroneous values and beliefs about dental health, suggest problems might be solved by means of dental health education (Tash, et al, 1969; Thomson, et al, 1973). The success of education programs aimed at changing opinions and attitudes about dental care is highly questionable. Festinger (1964) has suggested that changes in attitude alone are insufficient to change behavior; that environmental change or behavioral change must be brought about by external means if the attitude change is to be stabilized. Based on the work of Festinger and others on attitude and behavioral change, Douglass (1971) has argued that attitudes toward health services can best be changed by placing the individual in a "new health services environment (by bringing the health services to the individual).... The individual is placed in a new relationship with health services that require him to reexamine his previously held attitudes toward preventive actions and health services in general" (Douglass, 1971:11). In other words, intervention must occur at the behavioral rather than the attitudinal level; and to effect behavioral change, it will be

necessary to alter the delivery system such that underutilizers are brought into the system.

Innovations in the delivery of dental care services provide an opportunity to examine the validity of the argument for a "delivery system" explanation for utilization behavior. Most of the experiments in alternative delivery systems have been limited in scope, acting as supplements to solo fee-for-service practice primarily for the underprivileged (Haber and Leatherwood, 1969; Lambert et al, 1963). However, these experimental programs do lend support to the idea that changes in the delivery system are necessary. The report of Haber and Leatherwood (1969) on a clinic for Head Start Children in New York indicates the high utilization rates which can be achieved when the delivery of services is adjusted to suit the needs of low income groups. The clinic itself was staffed by salaried part-time dentists and operated on a non-profit basis with costs of treatment paid through a medical assistance program. Initial appointments were made for small groups of Head Start children accompanied by Head Start personnel and an adult family member. The Head Start Agencies oriented parents, prepared children for visits and made transportation arrangements. Parents were given a choice of participating by attending during further appointments. Only 13.5 percent of the children did not utilize the service.

Schoen (1970) has reported on the use of a salaried group practice with a capitation payment mechanism in a poor community in California. The group practice served both families eligible for care under a social service program and other patients. Although the number of families eligible for care through the special program was relatively small (sixty), almost all chose to receive dental care from the group

practice. Treatment needs of the entire family were determined at the initial examination and priorized according to urgency, but all patients received prophylaxis. The program used community service workers and a dental aide to coordinate all services, and dental health education seminars were planned. During the first four months of operation, seventy-two percent of the eligible patients had been seen. About forty percent of these patients had never received any dental care, and a quarter had received care only through the group practice prior to the beginning of the project. Broken appointments were high (twenty-one percent) compared to those for the entire practice (nine percent), yet treatment had been completed for over half of the patients within four months. Although this was a small-scale project, it points out one way in which the delivery system can be altered to provide complete restorative and maintenance care of a group of nonutilizers of the conventional "free-choice" private practice system. Resources are deployed in a very different way both to bring patients into care (through community workers) and to provide continuous care rather than emergency extractions.

Schoen (1965) has also reported on the effect of the use of this type of group practice by a longshoremen's children's dental program. In a longitudinal study over a nine-year period, an annual utilization rate of 85 percent was found. The study also found that children eligible for care for the entire nine-year period had an average of .05 missing teeth at age fifteen, compared to .39 missing teeth for fifteen-year olds who had been eligible for only one year of care. This suggests that without the care offered by the program, these children would have received either less care, or less effective

care. The capitation method of payment has apparently tended to encourage the salaried dentists to operate a preventive-oriented practice.

In Canada, a school-based treatment program has been instituted in the Borough of North York of Metropolitan Toronto (Lewis, 1974). Results of this program indicated sixty to seventy percent of the children utilized the services of the program's salaried dentists. The remainder of the children were receiving care through private practitioners. Thus virtually all of the children in this area were receiving care, compared to an estimated forty-four percent of the under fourteen age group in Canada.

This review of research on dental care utilization models has shown that the social-psychological and financial access explanations for utilization behavior are only partial answers. The significance of both types of variables is unquestioned, but a more holistic approach to the study of utilization is necessary. It has been suggested that this approach must include consideration of the interplay between the organization of services and the characteristics--psychological, social and cultural--of the subgroups of the population being served (or unserved). Reports on innovations in the delivery of dental care services lend support to the argument that the organization of services is an important factor in the determination of utilization behavior.

CHAPTER III

RESEARCH HYPOTHESES

Most literature on dental care utilization strongly implies that the lower social classes fail to utilize dental services as a result of the combination of a value system which places little emphasis on dental health and an inability or unwillingness to pay for care. If these explanations were true, the lower classes might increase utilization if the cost of care were substantially reduced, yet, the research shows that utilization does not increase under various insurance plans. As a result, there is a tendency to stress the need for change in the lower class value system through educational programs.

As an alternative to such explanations, it has been suggested that the reason for lower utilization by the working class lies in the lack of congruence between the manner in which the delivery of dental care is organized and the needs or value preferences of the working class patient. If the social-psychological theories advanced by Kegeles and others were valid, alterations in the delivery system would not only be unnecessary, but also ineffective in changing the utilization behavior of the lower classes.

An opportunity to test the validity of the organizational explanations of Freidson (1961), Berkanovic and Reeder (1974) and Douglass (1971), as opposed to the social-psychological theories of Kegeles and others, has been provided by the introduction of a new dental care delivery system in Saskatchewan. Services under the Saskatchewan Dental

Plan are provided by teams of salaried dentists, dental nurses, and dental assistants in school-based clinics throughout the province. During the first year of operation of the Plan, all six-year old children became eligible to receive services. Parents were in no way obligated to enroll their children, yet eighty percent of these children were enrolled within the first eight months following implementation of the program. In comparison, the rate of utilization of private practice dental care by children has been found to be only forty-four percent (Lewis, 1974). The very high rate of enrollment in the Plan suggests that the social-psychological models are inadequate to account for differential rates of dental care utilization.

The basic assumption of this study is that the organization of care is the primary factor in determining utilization. The organization of the Dental Plan is such that convenience to the parent is maximized. When the child is to receive care, the parent is notified, and if he or she chooses, an appointment may be made to accompany the child. Otherwise services are scheduled and provided in the child's own school or in the nearest school clinic.[1] All cost barriers have been removed. Because children receive services automatically on the basis of a treatment plan developed for each child by the salaried dentist, the parent does not risk the negative sanctioning of the dentist for failing to provide adequate care for his child. In addition, the quality of care which the Plan can be expected to provide has been proven to be high as a result of the evaluation of a pilot project utilizing the same type of dental personnel.

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[1] In most cases, transportation to clinics is provided by the Dental Plan.

In July 1975, a sample survey of parents who had not enrolled their children in the Plan was conducted. The list of families who were not enrolled in the Plan was generated some months prior to the time the survey was actually conducted.[1] Between the time the sample was drawn and the interviews were begun, nonenrolled families were sent a second set of enrollment forms and additional information about the Plan. This second invitation gave parents an opportunity to reconsider their decisions regarding enrollment and also increased awareness of the availability of the services offered by the Plan. As a result, a proportion of the sample was expected to have enrolled or to have decided to enroll in the Plan prior to the survey. It was therefore necessary to ask respondents whether they had enrolled or intended to enroll for services in the following year. Four groups of respondents were identified: 1. those who did not intend to enroll in the Plan, 2. those who were enrolled, 3. those who intended to enroll, and 4. those who were still undecided.

Although the lower social classes have consistently been found to underutilize the traditional dental care delivery system, it was expected that certain characteristics of the organization of the Saskatchewan Dental Plan--cost, convenience and quality of care--would be compatible with lower class structure and value systems. On the other hand, the middle and upper classes have been found to be relatively high utilizers of the traditional dental care delivery system. It was therefore assumed that the middle and upper classes possess structural

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[1] The list of nonenrolled families was generated in March, and the survey was conducted in July, 1975. This time lag was necessary in order to determine enrollment rates for various geographical regions, choose an appropriate sampling design, draw the sample and precode relevant demographic data onto questionnaires.

characteristics and a cultural value system congruent with the traditional mode of delivery.

Although it was assumed that most members of the lower class would enroll in the Dental Plan because of convenience and removal of financial barriers to care, it was also recognized that some members of the lower class would not immediately enroll in the Plan. Lower levels of education were expected to contribute to a lack of understanding of informational literature concerning the Plan and difficulty in completing enrollment forms. However, it was assumed that after a year of operation of the program, awareness of the services available and the manner in which they were delivered would increase.

On the basis of these assumptions, hypotheses were developed regarding the enrollment decisions of lower and middle to upper class parents during the second year of operation of the Dental Plan. Hypotheses were also developed about the reasons given by both classes of respondents for either delay in enrollment or the decision not to enroll.

Hypothesis 1: Lower class parents will be significantly more likely than middle to upper class parents to state that they have <u>enrolled</u> or <u>intend</u> to enroll their children in the Dental Plan. This hypothesis is based on previous research which has shown that the middle and upper classes are relatively high utilizers of traditional sources of care. It is therefore assumed that higher class parents who did not enroll in the Plan during its first year of operation will either choose not to change the source of dental care, or delay enrollment while

considering the implications of receiving care through the Plan. It is further assumed that care delivered by the Dental Plan will be more consistent with the needs of the lower classes than that previously available through private sources.

If these assumptions are correct, it would follow that:

Hypothesis 2: Middle and upper class parents will be more likely than lower class parents to report having a family dentist;

Hypothesis 3: Middle and upper class parents will be more likely than lower class parents to report that their children had received dental care in the previous year;

Hypothesis 4: Middle and upper class parents will be more likely than lower class parents to give reasons for nonenrollment indicating a preference for private dental care; and

Hypothesis 5: Lower class parents will be more likely than middle and upper class parents to give reasons for nonenrollment during the first year of the Plan indicating lack of awareness of services offered and failure to receive enrollment forms.

For two reasons, all of these hypotheses were tested while holding rural-urban residence constant. The first reason was related to the lack of availability of dental care services offered through the traditional delivery system in rural Saskatchewan. Previous studies which have considered rural-urban residence and dentist-to-population

ratios have found lower utilization in rural areas and areas with lower supplies of dentists (Newman and Anderson, 1972). This would suggest that the predicted social class variations in acceptance of the Dental Plan in Saskatchewan may not be found in rural areas. It may be that the traditional delivery system does not offer a viable alternative to any social class in rural areas.

The second reason for controlling for rural-urban residence was that relatively little is known about the stratification system and its behavioral correlates in rural Saskatchewan. In fact, the occupational and educational homogeneity in rural areas would almost suggest that few real differences exist. However, there are differences in the incomes of farmers which might affect dental care utilization patterns.

CHAPTER IV

METHODOLOGY

A. The Sample

The population under study consisted of all families of eligible children who had not been enrolled in the Saskatchewan Dental Plan by March, 1975. Two groups were excluded as being beyond the scope of the study--residents of the Northern Administration District of Saskatchewan, and residents of Indian reservations. The former were excluded because the dental program in that area is operated independently by the Department of Northern Saskatchewan; the latter because Indian leaders had requested parents not to enroll eligible children until jurisdictional issues with the federal government had been settled.

A random sample of the study group, stratified according to rural-urban residence, was drawn from a list of nonenrolled children generated from Dental Plan records.[1] In order to obtain estimates yielding a spread of five percent in either direction with 90 percent confidence, 250 interviews were to be completed for each group--a total of 500 interviews. On the basis of previous studies which indicate a high loss of respondents due to incorrect addresses (Swanson, 1975), a total of 1,309 names were drawn, 676 in rural and 633 in urban areas. Female heads of households were to be contacted in preference to males

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[1] Any community over 5,000 population was defined as urban. All other areas were designated as rural.

since it has generally been found that females assume primary responsibility for the health care of their families.

B. The Technique

The data was collected by means of interviews conducted by telephone using a structured interview schedule. Telephone interviews were selected in preference to mailed questionnaires due to the higher response rate anticipated. Although many respondents are lost for telephone interviews due to incorrect addresses, those who can be contacted generally agree to participate and the refusal rate is virtually nil. Mailed questionnaires, on the other hand, not only result in loss of respondents due to incorrect addresses, but also due to lack of inclination on the part of respondents to complete the questionnaire. The telephone interview technique therefore tends to produce a more representative sample of the population under study.

Personal interviews were not considered feasible due to travel costs and time which would have been necessary to obtain a representative sample of the province, with its widely scattered rural population. In addition, the pretest of the interview schedule indicated respondents were willing to discuss their reasons for nonenrollment freely over the telephone.

Telephone calls were made between 9:00 a.m. and 9:00 p.m. daily. If a respondent could not be contacted during the day, callbacks were done in the evening and vice-versa. Every respondent who could not be contacted on the first call was called again. In many cases, several attempts had to be made to reach respondents in order to reduce sampling bias.

All of the questions asked during interviews were open-ended. That is, interviewers were given a set of questions to be asked of all respondents, but respondents were to answer freely and were not given a set of multiple choice answers. Simple responses were coded directly onto the questionnaire, but reasons for the decision not to enroll or for delay in enrollment were written out and coded later. Occupational coding was done by the principal researcher to ensure consistency. All coding was checked to minimize errors.

A copy of the interview schedule appears in Appendix I. Coding categories were provided for the interviewers on the interview schedule even though the questions were open-ended. Because the entire range of reasons for nonenrollment could not be anticipated, columns were left open for the addition of reasons given by respondents.

C. Response Rate

A total of 523 interviews were actually completed: 272 in rural and 251 in urban areas, for a response rate of approximately 40 percent. Slightly more than half of the nonrespondents were lost because telephone numbers or addresses were not available, and about one quarter because respondents were not available when telephoned. At least nine percent of the nonrespondents were no longer residents of Saskatchewan. Former residents of the province may actually have constituted a larger proportion of the nonrespondents since those individuals often continue to appear on the eligibility list for some time after leaving Saskatchewan. A small proportion of children who were not enrolled in

the Plan were Wards of the province and parents or guardians could not be identified. Only 1.1 percent of all respondents lost were lost because of refusal to participate.

Demographic data on the sample of 1,309 families, including marital status, ages of parents and number of children, was precoded from the Medical and Hospitalization Master Registration File. This information was used to compare the characteristics of those families who completed the interview and those families who could not be contacted. Table 1 provides a comparison of the marital status of respondents contacted and not contacted. This data shows that married parents are over-represented in the contacted category, whereas single parents and those with a status of "other" are under-represented. While parents with a marital status of "other" (indicating divorced or widowed) constitute 19.4 percent of the entire sample, they constitute only 8 percent of that part of the sample which was contacted. The primary reason for the loss of this group from the survey was the lack of current addresses or telephone numbers. Part of this could be due to higher mobility rates, or to the sharing of accommodation in which case telephone listings might be in another unidentified name.

Table 1. Comparison of Respondents Contacted and Not Contacted According to Marital Status*

Marital Status	Contacted		Not Contacted		Total	
	N	%	N	%	N	%
Single	4	0.8	17	2.4	21	1.7
Married	477	91.2	500	69.8	977	78.9
Other	42	8.0	199	27.8	241	19.4
Total	523	100.0	716	100.0	1,239	100.0

*Excluding 70 cases for which data was missing.

The loss of respondents with a single or "other" marital status may have had a slight effect on the findings of the study. Comparison of the social class of respondents with single, married and "other" marital statuses indicates that those with single and "other" statuses were generally lower on the social class scale. If those respondents having a single or "other" marital status are representative of the whole group having this status, the direction of the effect of their under-representation in the sample may be predicted. In general, those with a single or "other" marital status were slightly more likely to report that their children had been enrolled or that they intended to enroll in the Plan.

As indicated in Table 2 below, the average age of parents contacted and not contacted did not vary greatly, and it is unlikely that the age differences noted would have any significant impact on the findings of the study. Comparison of the average number of children in families contacted and not contacted reveals very little difference. Among families contacted, the average number of children was 3.3; among families not contacted, 3.4.

Table 2. Comparison of the Average Ages of Parents Contacted and Parents Not Contacted*

Parent	Contacted		Not Contacted	
	Number	Average age	Number	Average Age
Mother	517	35.5	681	34.4
Father	482	39.1	551	38.7

*Excluding 70 cases for which data was missing.

D. The Interviewers

The interviewers were all university students with interviewing experience. Relatively close supervision of the interviewers was possible since the telephone interviews were conducted in offices accessible to the researcher at all times. Any questions regarding interpretation of responses could also be referred to the researcher.

E. Data Processing and Analysis

The data was coded directly onto the interview schedule, keypunched and entered into an SPSS system file. Cross-tabulations and tests of significance were used to interpret the data collected.

F. The Social Class Scale

In order to determine the social class of respondents, the occupation of the major wage earner in the household was recorded and classified according to the Blishen socioeconomic index (1967). This index provides scores for 320 Canadian occupations based on the education, income and prestige-ranking of the occupation. Although the Blishen scale was not entirely satisfactory since farm owners are not included in the index, previous research in Canada has found this scale to be more appropriate than others available which are based on American data (Williams, 1971). For this reason, the Blishen index was modified to include several categories of farmers based on the amount of land operated.

The scores assigned to Canadian occupations by Blishen range from 25.36 to 76.69. Blishen and others have generally translated these scores into six deciles representing six classes. For the purpose of this study, the two highest deciles were grouped into one class.

Workers who were unemployed and could give no usual occupation, and respondents who were receiving welfare payments were placed in the lowest category. The classes were labelled from I to V: Class I was considered upper class, II and III middle class, and IV and V lower class.

Farmers operating small farms of less than one section were placed in Class V; those with one but less than two sections in Class IV; two but less than three sections in Class III; and three or more sections in Class II. Farm labourers were classified as in the Blishen scale at Class V. Farm managers or foremen (but not owners) fell in Class IV using Blishen's index.

The occupation of the major wage earner was also classified according to the type of work performed: unskilled or semi-skilled blue collar, skilled blue collar, unskilled or semi-skilled white collar, skilled white collar, small business owners, managerial-professional, farmer--less than two sections, and farmer--more than two sections. As illustrated in Table 3, the two types of classification schemes displayed a high degree of association. However, the social class scale allows for overlap between occupational categories. That is, for example, the social class scale takes into account the fact that certain blue collar occupations may require higher levels of education and have higher incomes than certain white collar occupations. For this reason, the Blishen social class scale was selected as being more pertinent to the analysis than the occupational classification.

As Table 3 illustrates, the majority of farmers fell in Class IV, as did the majority of skilled blue collar workers. About 80 percent of the farmers fell in the two lower class categories, compared to 94 percent of the unskilled and semi-skilled blue collar workers

and 77 percent of the skilled blue collar workers. In order to determine whether or not this classification of farmers was reasonable, the intentions of farmers regarding enrollment in the Dental Plan were compared to those of other rural respondents who fell in the same social class category. No statistically significant differences between farmers and other rural occupational groups within the same class were found.[1] It was therefore concluded that the categorization of farm owners within the Blishen index was adequate for the purpose of this study.

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[1]The .05 level of significance is used throughout the analysis.

Table 3. Comparison of Occupational Categories According to Placement on the Social Class Scale

Social Class	Occupational Category															
	Unemployed		Farmer		Unskilled & Semi-skilled Blue Collar		Skilled Blue Collar		Unskilled & Semi-skilled White Collar		Skilled White Collar		Small Business Owners		Managers & Professionals	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
I	0	-	0	-	0	-	0	-	0	-	1	5.3	0	-	47	67.2
II	0	-	6	3.7	0	-	1	2.1	5	17.3	8	42.1	12	63.2	21	30.0
III	0	-	25	15.6	7	5.3	10	20.8	17	58.6	9	47.3	7	36.8	2	2.8
IV	0	-	98	61.3	50	38.5	36	75.0	7	24.1	1	5.3	0	-	0	-
V	14	100.0	31	19.4	73	56.2	1	2.1	0	-	0	-	0	-	0	-
Total*	14	100.0	160	100.0	130	100.0	48	100.0	29	100.0	19	100.0	19	100.0	70	100.0

*Excludes 34 cases (6.5% of all respondents) for which occupational data was missing.

CHAPTER V

ANALYSIS OF RESULTS

A. Geographical Distribution of Nonenrolled Children

Data on the geographical distribution of children who were not enrolled in the Saskatchewan Dental Plan was obtained from Dental Plan records as of March, 1975--approximately seven months following implementation of the program. Rural and urban children constitute roughly equal proportions of the nonenrolled group, but, as illustrated in Table 4, rates of nonenrollment are higher in urban (26.3%) than in rural areas (17.0%). This difference may be due primarily to more restricted access to traditional sources of dental care in rural areas.

Table 4. Comparison of Rates of Nonenrollment in Rural and Urban Areas

Residence	Nonenrolled Children N	Eligible Children N	Nonenrollment Rate %
Urban	1,859	7,080	26.3
Rural	1,347	7,936	17.0
Total	3,206	15,016	21.4

B. Description of the Sample of Families Not Enrolled

Information on the education, occupation and social class of families not enrolled in the Plan was collected during telephone interviews. As illustrated in Table 5, the educational level of urban residents was considerably higher than that of rural residents.

Table 5. Education of Major Wage Earners According to Rural-Urban Residence

Education	Rural		Urban		Total	
	N	%	N	%	N	%
Grade 1-8	77	30.6	30	12.8	107	22.0
Grade 9-11	96	38.1	68	28.9	164	33.7
Grade 12	42	16.7	50	21.3	92	18.9
Post-Secondary Training (Non-University)	14	5.5	28	11.9	42	8.6
Some University	9	3.6	17	7.2	26	5.3
University Degree	14	5.5	42	17.9	56	11.5
Total*	252	100.0	235	100.0	487	100.0

*Excludes 36 cases for which data was missing (6.9 percent of all cases).

Examination of the occupation of nonenrolled families in Table 6 indicates, as expected, that rural residents were predominantly farmers (59.3 percent) and blue collar workers (26.9 percent). In urban areas, about 46 percent of the respondents were blue collar workers, while almost a quarter were managers or professionals.

Table 6. Comparison of Rural and Urban Respondents According to the Occupational Category of the Major Wage Earner

Occupational Category	Rural		Urban		Total	
	N	%	N	%	N	%
Unemployed	4	1.5	14	6.0	18	3.7
Farmer-less than two sections	125	48.1	4	1.7	129	26.2
Farmer-two or more sections	29	11.2	2	0.9	31	6.3
Blue collar-unskilled and semi-skilled	53	20.4	77	33.0	130	26.4
Blue collar-skilled	17	6.5	31	13.3	48	9.7
White collar-unskilled and semi-skilled	8	3.1	21	9.0	29	5.9
White collar-skilled	2	0.8	17	7.3	19	3.8
Small Business owner	10	3.8	9	3.9	19	3.8
Managerial- Professional	12	4.6	58	24.9	70	14.2
Total	260	100.0	233	100.0	493	100.0

A comparison of the social class of rural and urban nonenrolled families is provided in Table 7 below. In general, urban residents tended to be of higher social class. While almost three-quarters (74.1 percent) of the rural respondents fell in the two lower classes, only half (51.7 percent) of the urban respondents were lower class. These differences may be due primarily to rural-urban differences in the social class structure rather than to any differences in rates of enrollment in rural areas according to social class. That is, the overall lack of managerial, professional and skilled white collar occupations in rural areas may create a situation in which rural residents would be predominantly lower class using this classification system. If this assumption is correct, it would be reasonable to expect a high proportion of the rural nonenrolled families to be lower class on the basis of chance alone.

Table 7. Comparison of Rural and Urban Respondents According to Social Class

Social Class	Rural		Urban		Total	
	N	%	N	%	N	%
I	8	3.1	40	17.4	48	9.8
II	22	8.5	31	13.5	53	10.8
III	37	14.3	40	17.4	77	15.8
IV	128	49.4	64	27.8	192	39.3
V	64	24.7	55	23.9	119	24.3
Total*	259	100.0	230	100.0	489	100.0

*Excludes 34 cases (6.5 percent of all respondents) for which data was missing. Of these, 13 were in rural areas and 21 in urban areas.

C. Test of the Hypotheses

The primary assumption of this study is that the organization

of the Saskatchewan Dental Plan is most suited to those groups which have underutilized the conventional dental care delivery system. As stated in Hypothesis 1, it was expected that of those families not enrolled in the first year, Class IV and V (lower class) parents would be more likely than higher class parents to report enrollment or an intention to enroll in the Plan during its second year of operation. As illustrated in Table 8, this hypothesis is supported in urban, but not in rural areas. Although a similar trend exists in rural areas, it should be noted that within each social class category, rural respondents are slightly more likely to report an intention to enroll in the Plan. These differences are most pronounced in the middle to upper class categories (I to III), but are not statistically significant. This finding, combined with data showing higher enrollment rates in rural areas, suggests that the organization of the Dental Plan is particularly suited to the needs of rural residents, regardless of social class.

Table 8. Comparison of Social Classes According to Intentions Regarding Enrollment, Controlling for Rural-Urban Residence

Rural[a]												
Intentions Regarding Enrollment	Social Class											
	I		II		III		IV		V		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Enrolled	1	12.5	6	27.3	11	29.7	44	34.4	21	32.8	83	32.1
Intend to Enroll	3	37.5	6	27.3	11	29.7	30	23.4	19	29.7	69	26.6
Undecided	0	0	4	18.1	7	18.9	19	14.9	10	15.6	40	15.4
Do Not Intend to Enroll	4	50.0	6	27.3	8	21.7	35	27.3	14	21.9	67	25.9
Total	8	100.0	22	100.0	37	100.0	128	100.0	64	100.0	259	100.0

[a]Chi square = 6.85, df = 12, p = .87

Table 8--continued

Urban[b]												
Intentions Regarding Enrollment	Social Class											
	I		II		III		IV		V		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Enrolled	7	17.5	7	22.6	16	40.0	28	43.7	23	41.8	81	35.2
Intend to Enroll	4	10.0	2	6.5	3	7.5	8	12.5	11	20.0	28	12.2
Undecided	11	27.5	5	16.1	6	15.0	8	12.5	10	18.2	40	17.4
Do not Intend to Enroll	18	45.0	17	54.8	15	37.5	20	31.3	11	20.0	81	35.2
Total	40	100.0	31	100.0	40	100.0	64	100.0	55	100.0	230	100.0

[b]Chi square = 23.56, df = 12, p = .02

Middle and upper class families who had not previously enrolled in the Plan were not expected to enroll during the second year as a result of their greater utilization of private dental care. Hypothesis 2 therefore stated that middle to upper class parents would be significantly more likely to report having a family dentist. The data in Table 9 illustrates that in urban areas, where the relationship between social class and intentions regarding enrollment was significant, those in the higher social class categories (I - III) were also significantly more likely to have a family dentist. Although a similar trend was found in rural areas, the differences were not significant. Once again, within each social class category, rural respondents were less likely than urban respondents to report having a regular dentist.

Table 9. Comparison of Social Classes According to Having a Family Dentist, Controlling for Rural-Urban Residence

Residence	Respondents Having a Family Dentist											
	Social Class											
	I		II		III		IV		V		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Rural[a] (N=259)	7	87.5	19	86.4	31	83.8	97	75.8	44	68.8	198	76.4
Urban[b] (N=230)	39	97.5	30	96.8	37	92.5	57	89.1	38	69.1	201	87.4

[a]Chi square = 4.99, df = 4, p = .29

[b]Chi square = 24.01, df = 4, p = .0001

While having a family dentist is one indicator of utilization of private dental care, of more importance is the actual provision of dental care for children. Hypothesis 3 stated that middle to upper class parents would be more likely than lower class parents to report that their children had received dental care in the previous year. As illustrated in Table 10, having a family dentist apparently does not always mean that the services of the dentist are used regularly. Comparing figures in Tables 9 and 10, the proportion of respondents who reported providing dental care for their children in the previous year was lower than the proportion who reported having a family dentist. However, the data does support hypothesis 3 since in both rural and urban areas, children of higher class families were more likely to receive dental care than children in lower class families. This relationship was statistically significant only in urban areas. Once again, rural-urban differences were found within social classes--rural children were less likely to have received care than urban children in the same class.

Table 10. Comparison of Social Classes According to Utilization of Dental Care Services by Children in the Previous Year, Controlling for Rural-Urban Residence.

Residence	Dental Care Services Utilized											
	Social Class										Total	
	I		II		III		IV		V			
	N	%	N	%	N	%	N	%	N	%	N	%
Rural[a] (N=258)	6	75.0	15	68.2	23	62.2	80	62.5	29	46.0	153	59.3
Urban[b] (N=228)	35	87.5	25	80.6	32	82.1	47	73.4	32	59.3	171	75.0

[a]Chi square = 6.80, df = 4, p = .15

[b]Chi square = 12.11, df = 4, p = .01

It was hypothesized that middle to upper class parents did not enroll their children in the Dental Plan during its first year of operation because of a preference for private care. This appears to be borne out by the data already discussed. To ensure that these inferences were correct, and to obtain further data on reasons for nonenrollment by other parents, respondents were asked why they decided not to enroll or delayed enrollment. Each respondent was encouraged to give as many reasons as he or she felt to be relevant. Over 40 different reasons were given by the 466 respondents who gave reasons. The majority of respondents who gave no reasons (11 percent of the sample) reported that they had enrolled shortly after the Plan came into effect. It is difficult to determine precisely why these families appeared on the nonenrollment list, but it is possible that in some cases enrollment forms were not received or processed by the Dental Plan. Since many of these respondents reported that their children had received care through the

Plan, it is more likely that the nonenrollment list was not completely up-to-date. It is also possible that some respondents gave erroneous answers.

Most of the respondents gave two or more reasons for nonenrollment or delay in enrollment. The reasons given were often very similar and were therefore combined into the fifteen categories which appear in Table 11. When reading this table, it should be remembered that respondents were not limited to one reason. Since the reasons are not mutually exclusive, the percentages for all reasons can not be added together. That is, for example, although 20 percent of Class I and II respondents may have given Reason A, and 15 percent Reason B, 35 percent of Class I and II respondents have not necessarily been accounted for. The 15 percent who gave Reason B may also have given Reason A. As a result, each reason is treated as a separate variable. It should also be noted that the percentages in each cell are calculated on the basis of the number of respondents giving reasons.

Because the primary concern was the difference between lower and middle to upper class respondents, the social class categories were regrouped, thereby simplifying the analysis and ensuring an adequate number of cases in each cell. Hypothesis 4 stated that middle and upper class parents would be more likely than lower class parents to give reasons for nonenrollment indicating a preference for private care. This was supported in urban, but not in rural areas. The results in Table 11 indicate very little difference between the reasons given by lower and higher class respondents in rural areas. The most frequent reasons for both class categories were utilization of private dental care and failure to complete enrollment forms. In urban areas the

differences between class categories were much greater. Class I and III families were significantly more likely to give reasons indicating utilization of private care, lack of confidence in the quality of care offered by the Plan, and disagreement with some feature of the Dental Plan.

Table 11. Comparison of Social Classes According to Reasons for Nonenrollment or Delay in Enrollment, Controlling for Rural-Urban Residence

Reasons for Nonenrollment or Delay in Enrollment	Rural				Urban			
	Class I to III (N=63)		Class IV & V (N=167)		Class I to III (N=102)		Class IV & V (N=104)	
	N	%	N	%	N	%	N	%
Use private dental care	23	36.5	52	31.1	53*	52.0	35	33.7
Lack confidence in quality of care under Dental Plan	11	17.5	32	19.2	31*	30.4	17	16.3
Failed to complete enrollment forms	17	27.0	52	31.1	13*	12.7	28	26.9
Did not receive enrollment forms	8	12.7	29	17.4	8*	7.8	20	19.2
Lack of detailed information about Plan	10	15.9	24	14.4	13	12.7	7	6.7
Skeptical	6	9.5	16	9.6	7	6.9	7	6.7
Had not considered enrollment	4	6.3	15	9.0	8	7.8	3	2.9
Disagreement with some feature of the Plan	9	14.3	13	7.8	12*	11.8	4	3.8
Child required specialized care	9	14.3	12	7.2	13*	12.7	11	10.6
Unaware of the Plan	2	3.2	9	5.4	1	1.0	11	10.6
Opposed to socialized dental care	1	1.6	8	4.8	5	4.9	2	1.9
Dental care paid by third party agency	1	1.6	2	1.2	4	3.9	8	7.7
No interest in dental care for children	2	3.2	4	2.4	1	1.0	2	1.9
Misinformed about the Plan	2	3.2	6	3.6	2	2.0	1	1.0
Other reason unrelated to the Plan	2	3.2	3	1.8	3	2.9	1	1.0

*Differences between Classes I to III and Classes IV and V in urban areas were significant beyond the .05 level.

Hypothesis 5 stated that lower class parents would be more likely than middle and upper class parents to give reasons for nonenrollment indicating lack of awareness of services offered and failure to receive enrollment forms. The data in Table 11 supports the hypothesis in urban, but not in rural areas. Table 11 also indicates that in urban areas, lower class parents were more likely than higher class parents to have simply failed to complete the forms which were received.

The findings in urban areas generally support the contention that middle to upper class nonenrolled parents chose not to enroll in the Plan as a result of their preference for care delivered through private practice. The findings further suggest that lower class parents failed to enroll in the Plan during its first year of operation, not because of negative attitudes toward the manner in which services were to be delivered, but rather because they were unaware of the Plan or did not receive enrollment forms. The fact that many parents simply failed to complete the forms could be explained in many ways--from misunderstanding of the forms to neglect of dental care for concerns of higher priority. It should be noted that very few respondents expressed negative attitudes toward dental care in general.

The findings in rural areas do not follow the same pattern. There do not appear to be any significant differences between social classes. Class I to III respondents in rural areas do not have any greater preference for private care than Class IV and V respondents in either rural or urban areas. Higher class rural respondents were as likely as lower class parents to report that they did not receive enrollment forms or simply failed to complete forms which were received. Lack of awareness of the Plan was not a major reason for nonenrollment

among rural residents.

The reasons most frequently given for nonenrollment or delay in enrollment--failure to receive or complete forms, lack of information, use of private dental care and lack of confidence in the Plan--were examined in various combinations while controlling for social class, intentions regarding enrollment and rural-urban residence. The results in Tables 12 and 13 show that regardless of social class or rural-urban residence, those respondents who intend to participate in the Plan vary only slightly in the reasons given for delay in enrollment. About half of the parents in each social class and rural-urban category simply failed to complete the forms.

Table 12. Comparison of Respondents Giving Any Combination of Three Specified Reasons for Nonenrollment or Delay in Enrollment According to Social Class, Intentions Regarding Enrollment and Rural-Urban Residence.

Rural								
Reason for Non-enrollment or Delay in Enrollment	Class I to III				Class IV and V			
	Enrolled or Intend to Enroll		Do Not Intend to Enroll or Undecided		Enrolled or Intend to Enroll		Do Not Intend to Enroll or Undecided	
	N	%	N	%	N	%	N	%
Failed to complete forms	14	40.0	2	7.1	41	45.5	5	6.5
Did not receive forms	4	11.4	3	10.7	17	18.9	9	11.7
Lack of information	7	20.0	1	3.6	9	10.0	10	13.0
Combination of these reasons	2	5.7	0	0	6	6.7	1	1.3
None of these reasons	8	22.9	22	78.6	17	18.9	52	67.5
Total	35	100.0	28	100.0	90	100.0	77	100.0

Table 12 Continued

Urban								
Reason for Non-enrollment or Delay in Enrollment	Class I to III				Class IV and V			
	Enrolled or Intend to Enroll		Do Not Intend to Enroll or Undecided		Enrolled or Intend to Enroll		Do Not Intend to Enroll or Undecided	
	N	%	N	%	N	%	N	%
Failed to complete forms	12	40.0	1	1.4	22	40.0	3	6.1
Did not receive forms	7	23.3	0	0	16	29.1	3	6.1
Lack of information	4	13.4	8	11.1	4	7.3	1	2.1
Combination of these reasons	0	0	1	1.4	3	5.4	0	0
None of these reasons	7	23.3	62	86.1	10	18.2	42	85.7
Total	30	100.0	72	100.0	55	100.0	49	100.0

A similar, though less striking, result is illustrated in Table 13 for parents who decided not to enroll in the Plan or were still undecided. The majority of these respondents in each social class and rural-urban category gave reasons indicating a preference for private dental care. These findings suggest that virtually all children, regardless of social class or place of residence will be receiving care, either through the Saskatchewan Dental Plan or through private dental practice.

Table 13. Comparison of Respondents Giving Any Combination of Three Specified Reasons for Nonenrollment or Delay in Enrollment According to Social Class, Intentions Regarding Enrollment and Rural-Urban Residence.

Reason for Non-enrollment or Delay in Enrollment	Rural: Class I to III — Enrolled or Intend to Enroll		Rural: Class I to III — Do Not Intend to Enroll or Undecided		Rural: Class IV & V — Enrolled or Intend to Enroll		Rural: Class IV & V — Do Not Intend to Enroll or Undecided	
	N	%	N	%	N	%	N	%
Use private care	3	8.6	12	42.9	5	5.6	20	26.0
Lack confidence	1	2.8	0	0	3	3.3	3	3.9
Lack of information	8	22.9	0	0	10	11.1	4	5.2
Combination of these reasons	1	2.8	9	32.1	5	5.6	26	33.8
None of these reasons	22	62.9	7	25.0	67	74.4	24	31.1
Total	35	100.0	28	100.0	90	100.0	77	100.0

Urban

Use private care	1	3.3	27	37.5	6	11.0	18	36.7
Lack confidence in Plan	2	6.7	5	6.9	2	3.6	2	4.1
Lack of information	3	10.0	2	2.8	2	3.6	1	2.0
Combination of these reasons	1	3.3	27	37.5	5	9.1	9	18.4
None of these reasons	23	76.7	11	15.3	40	72.7	19	38.8
Total	30	100.0	72	100.0	55	100.0	49	100.0

D. Summary of Findings

The geographical distribution of families who did not enroll eligible children in the Saskatchewan Dental Plan during its first year of operation was determined from Dental Plan records. This data indicated that rural parents were somewhat more likely than urban parents to enroll their children. The enrollment rate in rural areas was approximately 83 percent, compared to 74 percent in urban areas.

A number of hypotheses dealing with social class variations in intentions regarding enrollment during the second year of the Plan, use of private dental care and reasons for nonenrollment were formulated. These hypotheses were tested on the basis of results of telephone interviews with a random sample of parents who did not enroll during the first year of the Plan's operation. This sample was stratified according to rural-urban residence.[1]

Hypothesis 1 stated that lower class respondents would be more likely than middle to upper class respondents to state an intention to enroll in the Plan or report that they had already enrolled. The hypothesis was supported in urban areas. In rural areas, the differences between social classes were not statistically significant, but they did follow the expected pattern.

Hypothesis 2 stated that among families who did not enroll during the first year of the Plan, middle to upper class parents would be more likely than lower class parents to report that they had a family dentist. Once again, the hypothesis was supported in urban areas. A similar, but statistically nonsignificant, trend was found in rural areas.

Hypothesis 3, which stated that middle to upper class parents would be more likely to report that their children had received dental care in the previous year, was also supported in urban areas. In rural areas, the same trend was evident, but results were not significant. It was also noted that rural respondents were slightly less likely than their urban counterparts in the same social class to report the use of private dental care.

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[1] The reasons for rural-urban stratification are discussed in Chapter IV.

Hypotheses 4 and 5 dealt with social class variations in reasons given for nonenrollment during the first year of the Plan. Hypothesis 4 stated that middle to upper class parents would be more likely than lower class parents to give reasons indicating a preference for private dental care. The results in urban areas supported the hypothesis. In rural areas, there were no statistically significant differences between classes on these reasons.

Hypothesis 5 stated that lower class parents would be more likely than higher class parents to give reasons indicating lack of awareness of the Plan or failure to receive forms. Again, the expected differences were found in urban but not in rural areas. Urban lower class respondents were also found to report that they simply failed to complete forms which were received. In rural areas, higher class respondents were as likely as lower class respondents to state that they did not receive forms or failed to complete forms. Lack of awareness of the Plan was not a major reason for nonenrollment in rural areas.

Among respondents who reported that they had already enrolled or intended to enroll, it was found that both lower and higher class respondents had simply failed to complete the required forms. Among those who did not intend to enroll, the reasons given for nonenrollment indicated a preference for private dental care.

The results of the study, combined with other data on enrollment rates, indicate a very high rate of acceptance of the Dental Plan by all social classes. Of particular importance is the acceptance of the Plan by rural families of all classes and by urban lower class families. Without access to the Dental Plan, the children of these families would receive very little dental care. The Plan also appears

to present a reasonable alternative to many higher class families who have been regular utilizers of private dental practices.

CHAPTER VI

CONCLUSIONS

A review of the literature on dental care utilization indicated that members of the lower classes were less likely than higher class members to utilize traditional sources of dental care, even when these services were provided under a variety of insurance plans. The reasons cited for underutilization by the lower classes generally involved social and psychological characteristics of the lower classes themselves--lack of financial resources, ignorance, apathy and fear. The literature review indicated that little consideration had been given to the characteristics of the dental care delivery system and its effect on utilization behavior.

The primary argument of this paper was that although a lack of financial resources may contribute to lower class underutilization of dental care, this was only a partial explanation. It was further argued that lack of knowledge and negative attitudes toward dental care were not, in themselves, the primary reasons for underutilization of services by lower socioeconomic groups. Instead, it was suggested that the reasons for low utilization should be sought by considering the characteristics of the traditional dental care delivery system itself and relating these to the needs of the population to be served. In other words, the characteristics of the delivery system must be treated as independent variables interacting with certain attributes of the population, and ultimately determining utilization behavior.

This study did not focus on organizational variables directly, but it did involve observation of behavior in a "natural experiment" where the study group was allowed to choose among two organizational options (private dental practices and a government-operated program) and no care at all. Within seven months of implementation of the voluntary government dental plan for children, eighty percent of the eligible children had been enrolled. A sample survey of parents of the remaining twenty percent of eligible children indicated that the majority of those who would not be enrolled for services during the following year, would be receiving care through private dental practices. It was also found that the majority of children from lower income families who were not originally enrolled in the Plan, would be enrolled during the Plan's second year of operation.

The results of this study tend to support the contention that changes in the nature of the dental care delivery system can alter utilization patterns such that inequalities in the receipt of care are eliminated. Within one year of implementation of an alternative delivery system in Saskatchewan, it appears that virtually all of the first group of eligible children will be receiving care through either the provincial Dental Plan or private dental practices. The most recent Canadian study indicated only forty-four percent of the under fourteen age group were receiving regular dental care (Lewis, 1974). Other Canadian studies indicated that much of this care was being received by those in higher socioeconomic groups (Bene, et al, 1974).

The fact that utilization behavior can be altered by changes in the organization of care brings into question the conclusions of those who argue that the public (especially the lower classes) must be

taught to seek care through educational campaigns. The original enrollment of eighty percent of all eligible children in the Saskatchewan Dental Plan strongly suggests that lack of knowledge of the need for care or negative attitudes toward dental care are not the primary reasons for underutilization of dental services. Studies of utilization under dental insurance plans using traditional delivery systems suggest that financial considerations cannot fully account for underutilization. The evidence strongly suggests that other variables directly related to the nature of the delivery system play a significant role in utilization behavior.

Assuming that the public does choose to divert resources to dental care, the body of research previously reviewed suggests that the option of insured care through private practices will not result in a significant change in class-related utilization patterns. Those who have used the private practice alternative may utilize care in greater volumes, but the traditional underutilizers will continue to underutilize. This may also be a very costly way of attempting to redistribute resources, particularly if the practice of dentistry is not regulated to encourage the use of auxiliary personnel to perform many of the simpler functions now carried out by dentists.

Changes in the organization of the delivery system appear to provide the best alternative for improving the distribution of dental care. The program developed in Saskatchewan is only one of the organizational options. Rather than providing care to a small underprivileged target group, it appears that this Plan has the potential for becoming the "mainstream" form of dental care. Its appeal crosses all social class boundaries, as is evident from the initial enrollment

rate of eighty percent and the results of this study.

Problems of utilization are only partially resolved by dental programs for children. Services under the Dental Plan extend only to age twelve.[1] After that, care will presumably have to be sought through the private practice alternative. Yet, there is evidence that those no longer eligible for care under special programs do not seek care from traditional sources (Lambert et al, 1963; Kegeles and Cohen, 1971). Since the incidence of dental disease continues throughout life, comprehensive care during childhood may be of only marginal value if inadequate care is received later. In order to obtain maximum value from funds expended for care of children, there must be further effort to develop alternative delivery systems suitable for the use of adults. To resolve this problem, the cooperation of the dental profession, governments and the public will be necessary. Further experience with experimental dental programs and research on utilization behavior following the termination of eligibility for public programs may provide some indication of the changes required in the dental care system if all citizens are to receive adequate care.

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[1]Services may be extended to age eighteen, but no decision has yet been made.

BIBLIOGRAPHY

Aday, LuAnn. The Utilization of Health Services: Indices and Correlates. A Research Bibliography. National Center for Health Services Research and Development, DHEW PUB. NO. (HSM) 73-3003. Washington, DC: U.S. Government Printing Office, 1972.

_____, and Andersen, Ronald. "A Framework for the Study of Access to Medical Care." Health Services Research, 9 (Fall, 1974), 208-20.

Allred, H., and Hobdell, M. H. "Current Experiments in the Delivery of Dental Services." International Dental Journal, 24 (December, 1974), 457-66.

Andersen, Ronald. A Behavioral Model of Families' Use of Health Services. Chicago: Centre for Health Administration Studies, Research Series 25, 1968.

Antonovsky, Aaron. "A Model to Explain Visits to the Doctor." Journal of Health and Social Behavior, 13 (December, 1972), 446-54.

_____, and Kats, Rachel. "The Model Dental Patient: An Empirical Study of Preventive Health Behavior." Social Sciences and Medicine, 4 (November, 1970), 367-79.

Badgley, Robin F. "The Public and Medical Care in Saskatchewan." American Journal of Public Health, 53 (May, 1963), 720-4.

_____, and Wolfe, Samuel. Doctor's Strike: Medical Care and Conflict in Saskatchewan. Toronto: Macmillan, 1967.

Beck, R.G. "Economic Class and Access to Physician Services Under Public Medical Care Insurance." International Journal of Health Services, 3 (Summer, 1973), 341-55.

Bene, A.A.; Novasky, W.E.; and Geldart, S.G. "Dental Care in Alberta: Public Attitudes, Utilization Patterns and Socio-economic Determinants." Journal of the Canadian Dental Association, 40 (July, 1974), 444-51.

Berkanovic, E., and Reeder, L.G. "Ethnic, Economic and Social Psychological Factors in the Source of Medical Care." Social Problems, 21 (Fall, 1973), 246-59.

_____. "Can Money Buy the Appropriate Use of Services? Some Notes on the Meaning of Utilization Data." Journal of Health and Social Behavior, 15 (June, 1974), 93-9.

Bice, Thomas W., and White, K.L. "Factors Related to the Use of Health Services: An International Comparative Study." Medical Care, 7 (March-April, 1968), 124-33.

_____; Rabin, D.L.; Starfield, B.H.; and White, K.L. "Economic Class and Use of Physician Services." Medical Care, 11 (July-August, 1973), 287-96.

Blishen, Bernard R. "A Socio-Economic Index for Occupations in Canada." Canadian Review of Sociology and Anthropology, 4 (1967), 41-53.

Bodnarchuk, A. "Utilization of Dental Services by Welfare Recipients in a Private Dental Office." Journal of the Canadian Dental Association, 33 (March, 1967), 126-30.

Bugbee, G. "The Administration of Dental Care Organizations." Journal of the American College of Dentists, 37 (January, 1970), 57-65.

Coburn, David, and Pope, C.R. "Socio-economic Status and Preventive Health Behavior." Journal of Health and Social Behavior, 15 (June, 1974), 67-78.

Coe, R.M., and Wessen, A. "Social Psychological Factors Influencing the Use of Community Health Resources." American Journal of Public Health, 55 (July, 1965), 1024-31.

Douglass, C.W. "A Social-Psychological View of Health Behavior for Health Services Research." Health Services Research, 6 (Spring, 1971), 6-14.

_____, and Stacey, D.C. "The Clinic Habit: A Sociological Analysis of a Dental Public Health Program." Journal of Public Health Dentistry, 33 (Winter, 1973), 56-8.

Epstein, Joel B.; Moore, D.M.; and McPhail, C.W.B. "How Much Does the Public Know About Preventive Dental Health?" Journal of the Canadian Dental Association, 40 (October, 1974), 657-61.

Evans, R.G. Paying the Dentist: How, To Whom and For What? Toronto: Dental Health Care Services and Epidemiology Research Unit, Faculty of Dentistry, University of Toronto, 1975.

Festinger, L. "Behavior Support for Opinion Change." Public Opinion Quarterly, 28 (Fall, 1964), 404.

Freeman, H.E., and Lambert, C. Jr. "Preventive Dental Behavior of Urban Mothers." Journal of Health and Human Behavior, 6 (Fall, 1965), 141-7.

Freidson, Eliot. Patients' Views of Medical Practice. New York: Russel Sage, 1961.

_____, and Feldman, Jacob J. The Public Looks at Dental Care. New York: Health Information Foundation Research Series 6, 1958.

German, Pearl S. "Prepaid Group Health Practice in a New Community." Journal of Health and Social Behavior, 14 (December, 1973), 362-8.

Greenlick, M.R.; Freeborn, D.K.; Colombo, T.J.; Prussin, J.A.; and Saward, E.W. "Comparing the Use of Medical Care Services by a Medically Indigent and a General Membership Population in a Comprehensive Prepaid Group Practice Program." Medical Care, 10 (May-June, 1972), 187-200.

Haber, Zipporah, and Leatherwood, Ernest E. Jr. "A Dental Program for Head Start Children in New York City: A Retrospective Study of Utilization and Costs." Medical Care, 7 (July-August, 1969), 281-7.

Hall, Oswald. Utilization of Dentists in Canada. Ottawa, Canada: Royal Commission on Health Services, 1965.

Hastings, J.E.F.; Mott, F.D.; Barclay, A.; and Hewitt, D. "Prepaid Group Practice in Sault Ste. Marie, Ontario: Part 1: Analysis of Utilization Records." Medical Care, 11 (March-April, 1973), 91-103.

Kegeles, S.S. "Why People Seek Dental Care: A Review of Present Knowledge." American Journal of Public Health, 51 (September, 1961), 1306-1311.

_____. "Some Motives for Seeking Preventive Dental Care." Journal of the American Dental Association, 67 (July, 1963a), 91-8.

_____. "Why People Seek Dental Care: A Test of a Conceptual Formulation." Journal of Health and Human Behavior, 4 (Fall, 1963b), 166-73.

_____. "Why and How People Use Dental Services." International Dental Journal, 24 (September, 1974), 347-51.

_____, and Cohen, Lois K. "Role of Social Sciences in Dentistry." Social Sciences and Dentistry: A Critical Bibliography. Edited by N. David Richards and Lois K. Cohen. The Hague, Netherlands: Federation Dentaire Internationale, 1971, 365-77.

Koos, E.L. The Health of Regionville. New York: Hafner Publishing Company, 1967.

Kriesberg, L., and Treiman, B.R. "Socio-economic Status and Utilization of Dentists' Services." Journal of the American College of Dentists, 27 (1960), 147-65.

_____. "Preventive Utilization of Dentists' Services Among Teenagers." Journal of the American College of Dentists, 29 (March, 1962), 28-45.

Lambert, C.; Freeman, H.E.; Morris, R.; and Taubenhaus, L.J. "Public Clinic Care and Eligibility." American Journal of Public Health, 53 (August, 1963), 1196-1204.

Lawton, D.M.; Williams, J.L.; and Martinello, B.P. "Determinants of Dental Care." Canadian Journal of Public Health, 64 (July-August, 1973),343-50.

Leverett, D.H., and Jong, A. "Variations in Use of Dental Care Facilities by Low-income White and Black Urban Populations." Journal of the American Dental Association, 80 (July, 1970), 137-40.

Lewis, D.W. "Effectiveness of Dental Care Services with Emphasis on Canada." Canadian Journal of Public Health, 65 (May-June, 1974), 209-13.

Linn, Erwin L. "The Dentist-Patient Relationship." Social Sciences and Dentistry: A Critical Bibliography. Edited by N. David Richards and Lois K. Cohen. The Hague, Netherlands: Federation Dentaire Internationale, 1971, 195-208.

Lipset, Seymour Martin. Agrarian Socialism: The Cooperative Commonwealth Federation in Saskatchewan. New York: Doubleday and Company Inc., 1968.

McCormick, C.H. "Availability and Utilization of Dental Services by Rural Manitoba Children." Journal of the Canadian Dental Association, 32 (May, 1966), 280-5.

McDermott, C.F. "Dental Practice--Factors Affecting the Delivery of Dental Care." Journal of the American College of Dentists, 37 (April, 1970), 101-9.

McFarlane, Bruce A. Dental Manpower in Canada. Ottawa, Canada: Royal Commission on Health Services, 1965.

McKinlay, John B. "Some Approaches and Problems in the Study of the Use of Services." Journal of Health and Social Behavior, 14 (June, 1972), 115-52.

Milton, Terris. "The Contributions of Henry E. Sigerist to Health Service Organization." Milbank Memorial Fund Quarterly, 53 (Fall, 1975), 489-530.

Monterio, Lois A. "Expense is No Object...Income and Physician Visits Reconsidered." Journal of Health and Social Behavior, 14 (June, 1973), 99-115.

Muller, Charlotte. "Income and the Receipt of Medical Care." American Journal of Public Health, 55 (April, 1965), 510-21.

Mulvihill, J.E.; Bear, W.S.; Dunning J.M.; and Giddon, D.B. "Utilization of a Prepaid Plan of Commercial Dental Insurance." Journal of Public Health Dentistry, 32 (Summer, 1972), 187-96.

New, Peter Kong-ming, and New, Mary Louie. The Collation and Description of Canadian Studies of the Utilization of Dentist Services. Toronto: Dental Health Care Services and Epidemiology Research Unit, Faculty of Dentistry, University of Toronto, 1975.

Newman, J.F., and Anderson, D.W. Patterns of Dental Services Utilization in the United States. Chicago: University of Chicago, Centre for Health Administration Studies, Research Series 30, 1972.

Nikias, M.K. "Social Class and the Use of Dental Care Under Prepayment." Medical Care, 6 (September, 1968), 381-93.

O'Shea, R.M. "Characteristics of Dental Practice." Social Sciences and Dentistry: A Critical Bibliography. Edited by N. David Richards and Lois K. Cohen. The Hague, Netherlands: Federation Dentaire Internationale, 1971a, 150-80.

_____. "Dentistry as an Organization and Institution." Milbank Memorial Fund Quarterly, 49, Part 2 (July, 1971b), 13-28.

_____, and Bissell, G.D. "Dental Services Under Medicaid: The Experience of Erie County New York." American Journal of Public Health, 59 (May, 1969), 832-40.

Parsons, Talcott. The Social System. New York: The Free Press, 1951.

Polgar, S. "Health Action in Cross-Cultural Perspective." Handbook of Medical Sociology. Edited by H.E. Freeman, Sol Levine and Leo G. Reeder. Englewood Cliffs, New Jersey: Prentice-Hall, 1963, 397-419.

Pollock, Sam. "Prepaid Health Services--Labour's Point of View." Proceedings of the First International Congress on Group Medicine. New Horizons in Health Care. Winnipeg, Manitoba: 1970, 304-313.

Powell, F.A., and Roghmann, K.J. "Use of Dental Services in an Urban Area Before Medicaid and an OEO Health Center." Health Services Reports, 88 (March, 1973), 260-70.

Reeder, L.G. "The Patient-Client as a Consumer: Some Observations on the Changing Professional-Client Relationship." Journal of Health and Social Behavior, 13 (December, 1972), 406-12.

Research and Planning Branch, Saskatchewan Department of Public Health. A Proposal for a Dental Program for Children in Saskatchewan. Regina, Saskatchewan: Saskatchewan Department of Public Health, 1972.

Richards, N. David. "Utilization of Dental Services." Social Sciences and Dentistry: A Critical Bibliography. Edited by N. David Richards and Lois K. Cohen. The Hague Netherlands: Federation Dentaire Internationale, 1971, 209-40.

_____, and Barmes, David E. "Social Factors in Dental Epidemiology. Social Sciences and Dentistry: A Critical Bibliography. Edited by N. David Richards and Lois K. Cohen. The Hague, Netherlands: Federation Dentaire Internationale, 1971, 308-46.

Roemer, M.I. "Prepaid Medical Care and Changing Needs in Saskatchewan." American Journal of Public Health, 46 (September, 1956), 1082-8.

Rosenstock, I.M. "Why People Use Health Services." Milbank Memorial Fund Quarterly, 44 (July, 1966), 94-124.

Schnur, J.A., and Hollenberg, R.D. "Saskatchewan Medical Care in Retrospect." Medical Care, 4 (April, 1966), 111-9.

Schoen, Max H. "Effect of a Prepaid Children's Dental Care Program on Mortality of Permanent Teeth." Journal of the American Dental Association, 71 (September, 1965), 626-34.

_____. "Group Practice and Poor Communities." American Journal of Public Health, 60 (June, 1970), 1125-32.

_____. "Methodology of Capitation Payment to Group Dental Practice and Effects of Such Payment on Care." Health Services Reports, 89 (January-February, 1974), 16-24.

Swanson, Evelyn. An Evaluation of the Acceptance of Community Health and Social Centres. Regina, Saskatchewan: Research and Planning Branch, Saskatchewan Department of Health, 1975.

Tash, R.H.; O'Shea, R.M.; and Cohen, L.K. "Testing a Preventive-Symptomatic Theory of Dental Health Behavior." American Journal of Public Health, 59 (March, 1969), 514-21.

Thomson, Heather E.; Mann, J.R.; and McPhail, C.W.B. "Dentists' Attitudes to Prepaid Children's Dental Care Programs and Expanded Duty Dental Auxiliaries in Saskatchewan." Journal of the Canadian Dental Association, 39 (January, 1973), 47-54.

Veeder, Nancy W. "Health Services Utilization for Human Services Planning." Journal of the American Institute of Planners, 41 (March, 1975), 101-9.

Wan, Thomas T., and Soifer, Scott J. "Determinants of Physician Utilization: A Causal Analysis." Journal of Health and Social Behavior, 15 (June, 1974), 100-8.

Williams, J. Ivan. "Problems of Measuring Social Class in a Public Health Agency." Canadian Journal of Public Health, 62 (January-February, 1971), 42-5.

Young, Marjorie, A.C. "Dental Health Education of Adults." Social Sciences and Dentistry: A Critical Bibliography. Edited by N. David Richards and Lois K. Cohen. The Hague, Netherlands: Federation Dentaire Internationale, 1971, 241-74.

APPENDIX 1. THE INTERVIEW SCHEDULE

RESPONDENT CARD

REGISTRATION NUMBER: _____

NAME OF PARENT: _____

NAME OF CHILD: _____

ADDRESS: _____
STREET TOWN

NEW ADDRESS IF CHANGED: _____
STREET TOWN

PHONE NUMBER: _____

CALL STATUS:

successful call _____

not available when called _____
(busy, not home, or no answer) _____

refusal (comments) _____

_____

_____

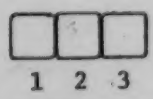
Lost to survey

telephone number not located _____
residence changed _____
not listed on MRF (left province) _____
other _____

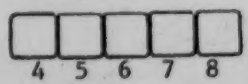
DENTAL PLAN SURVEY OF NON-PARTICIPANTS

I. DEMOGRAPHIC DATA (PRE-CODED)

1. Identification Number



2. Residence Code



3. Category

   1. Rural
   2. Urban

4. Age of Father

   1. 24 & under (Born 1951 or after)
   2. 25-34 (Born 1941-1950)
   3. 35-44 (Born 1931-1940)
   4. 45-54 (Born 1921-1930)
   5. 55-64 (Born 1911-1920)
   6. 65 + over (Born 1910 or before)
   7. Not applicable

5. Age of Mother

   1. 24 + under
   2. 25-34
   3. 35-44
   4. 45-54
   5. 55-64
   6. 65 + over
   7. Not applicable

6. Marital Status

   1. Single
   2. Married
   3. Other

12

7. Total number of children born 1957-1975

13

II. INTERVIEW DATA

1. CODE SEX OF RESPONDENT

   1. Male
   2. Female

   ☐ 14

2. CODE TYPE OF INTERVIEW

   1. Telephone
   2. In-person

   ☐ 15

"First, with your permission, we would like to ask some questions about the education and occupation of the head of your household." (the major wage earner)

3. Do you mind telling me the last grade of formal education of the head of the household?

   1. Less than grade 5
   2. Grade 5-8
   3. Grade 9-11
   4. Grade 12
   5. Vocational training
   6. Post-secondary non-university
   7. Some university
   8. University degree
   9. Not answered - refusal

   ☐ 16

4. Could you please tell me the occupation of the head of the household? If a farmer, what is approximate size of farm?

_____ ☐☐ 17 18

_____ ☐ 19

5. Now we would like to ask whether your child, the one born in 1968, has been to a dentist or received dental care elsewhere in the last year.

1. Yes
2. No
3. Don't know ☐ 20

6. Last year, all children born in 1968 became eligible to receive dental care under the Saskatchewan Dental Plan. Have you heard of the Dental Plan?

1. Yes
2. No
3. Don't know ☐ 21

7. About a year ago, the Saskatchewan Dental Plan mailed enrollment forms to all parents of six-year old children. Do you remember receiving these forms?

1. Yes
2. No
3. Don't know ☐ 22

8. Did you enroll your child in the Dental Plan?

   1. Yes
   2. No
   3. Don't know

23

IF CHILD IS NOT ENROLLED IN THE DENTAL PLAN, SKIP TO QUESTION 12.

IF CHILD IS NOW ENROLLED ASK QUESTIONS 10 AND 11.

IF RESPONDENT DOESN'T KNOW, ASK QUESTION 9.

(ASK QUESTION 9 ONLY IF RESPONDENT DOESN'T KNOW WHETHER CHILD IS ENROLLED.)

9. Is there someone else in the household who would know whether the child is enrolled?

   Yes No

   Who would that be? _____

   When might he/she be contacted? _____

IF SOMEONE ELSE CAN BE CONTACTED, INDICATE YOU WILL CALL BACK. IF NOT, GO ON TO QUESTION 12)

QUESTIONS 10 AND 11 APPLY ONLY TO THOSE WHOSE CHILDREN ARE NOW ENROLLED.

10. Can you tell me approximately how long ago your child was enrolled?

    1. Within the last two months
    2. 3-5 months ago
    3. 6 or more months ago
    4. Not applicable -- child is not enrolled

24

11. Has your child been seen by dental plan personnel yet?

    1. Yes
    2. No
    3. Unsure
    4. Not applicable -- child is not enrolled

☐ 25

ALL RESPONDENTS

12. Now we would like to ask whether you have a family dentist.

    1. Yes
    2. No
    3. Don't know

☐ 26

13. Have you discussed the Dental Plan with him? (your dentist)

    1. Yes
    2. No
    3. Don't know
    4. NA -- no family dentist

☐ 27

QUESTION 14 APPLIES ONLY IF RESPONDENT DECIDED NOT TO ENROLL IN PLAN OR DELAYED ENROLLMENT.

14. Since you decided not to enroll your child in the Dental Plan (or delayed enrolling your child in the Plan), do you mind telling me what your reasons were? (RECORD ALL REASONS GIVEN)

REASON 1 _____

_____

REASON 2 _____

_____

REASON 3 _____

_____

REASON 4 _____

_____

QUESTION 15 APPLIES ONLY IF CHILD IS NOT ENROLLED

15. Do you intend to enroll your child this year?

1. Yes
2. No
3. Still considering
4. Don't know
5. NA -- child enrolled

☐ 28

ALL RESPONDENTS

16. In your opinion, is the Dental Plan for children a good idea?

1. Yes
2. Yes, but not as it operates now
3. No
4. No, would prefer a dental insurance plan
5. Don't know
6. Other (specify) _____

_____

_____

☐ 29

REASONS FOR NON-PARTICIPATION OR DELAY IN ENROLLMENT

BASED ON RESPONSES TO QUESTIONS 14 AND 16.

CODING: LEAVE BLANK IF REASON NOT GIVEN

CODE 1 IF REASON WAS GIVEN

ENROLLMENT FORMS, UNAWARE, ENROLLED

1. Did not receive enrollment forms ☐ 30
2. Mislaid enrollment forms ☐ 31
3. Respondent unsure of whether child was enrolled ☐ 32
4. Child was enrolled in Plan within last 5 months ☐ 33
5. Parent thought child was enrolled 6-12 months ago ☐ 34
6. Did not realize it was necessary to complete enrollment forms ☐ 35

CARE THROUGH TRAINING PROGRAM OR INSURANCE

7. Receiving dental care under the dental nurse training program or other training program ☐ 36
8. Dental care paid through a company or private insurance plan ☐ 37

FAMILY DENTIST

9. No problem with using private dentist ☐ 38
10. Can afford to send child to own dentist ☐ 39
11. Dentist is personal friend ☐ 40

12. High level of confidence in family dentist ☐ 41

13. Prefer to have a "family dentist" i.e. someone to look after entire family ☐ 42

14. Children are used to the family dentist ☐ 43

15. Dental care provided by relative who is a dentist ☐ 44

16. Dentist recommended not enrolling in Plan ☐ 45

IDENTIFIED PROBLEMS WITH DENTAL PLAN

17. Thought quality of care under Dental Plan would be low--no confidence in Dental Nurses. ☐ 46

18. Consent form gave too much authority to Dental Plan personnel to provide treatment without notifying parent. ☐ 47

19. Parents not involved in Plan ☐ 48

20. No Dental Plan Clinic in local community ☐ 49

21. No busing to Dental Clinic available ☐ 50

SOCIALIZED DENTAL CARE

22. Opposed to socialized dental care ☐ 51

SKEPTICAL

23. Wanted to wait until the Dental Plan had been operational for some time and an assessment from users could be obtained ☐ 52

LACK OF INTEREST

24. Not interested in dental care for children ☐ 53

EXCEPTIONAL CHILDREN--HANDICAPPED OR SPECIAL DENTAL PROBLEM

25. Child is handicapped and requires special care ☐ 54

26. Child will need special care from private dentist anyway--braces, care for cleft palate, etc. ☐ 55

ADDITIONAL REASONS

27. Unaware of the Plan ☐ 56

28. Lack of information available ☐ 57

29. Not discussed with spouse ☐ 58

30. Misinformed about Plan ☐ 59

31. Baby teeth don't need care ☐ 60

32. Completed forms incorrectly ☐ 61

33. Enrolled since second set of forms mailed ☐ 62

34. Didn't get around to completing enrollment forms ☐ 63

35. Child not yet in school ☐ 64

36. School inappropriate place to provide dental care ☐ 65

37. Teeth checked by private dentist--no care required ☐ 66

38. Enrollment may interfere with care from dentist ☐ 67

39. Hasn't really considered the Plan ☐ 68

40. Temporary resident or temporarily out of province ☐ 69

41. ☐ 70

42. Program may be inefficient in providing care when needed. ☐ 71

43. Cost of dental care paid through welfare ☐ 72

44. Child not born in 1968, therefore ineligible ☐ 73

45. Thought child too young ☐ 74

46. Child not with legal guardian ☐ 75

☐ 76

☐ 77

☐ 78

☐ 79

CODE THE TOTAL NUMBER OF REASONS GIVEN FOR DELAY OR NONENROLLMENT ☐ 80